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# Forgone health care among secondary school students in New Zealand

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## ABSTRACT

**INTRODUCTION:** Perceived lack of confidential health care is an important barrier for young people accessing health care services in New Zealand (NZ).

**AIM:** To determine the prevalence of forgone health care among a nationally representative sample of NZ secondary school students and to describe the health concerns and specific health issues for which young people had difficulty accessing health care.

**METHODS:** Random sample of 9107 NZ secondary school students participated in a 2007 health survey using internet tablets. Questions about access to health care included whether there had been a time when they had not accessed health care when needed, reasons for difficulty in accessing health care, current health concerns and health risk behaviours.

**RESULTS:** One in six students (17%) had not seen a doctor or nurse when needed in the last 12 months. Female Maori and Pacific students and those living in neighbourhoods with high levels of deprivation were more likely to report forgone health care. Students with chronic health problems, those engaging in health risk behaviours or experiencing symptoms of depression were more likely to report being unable to access health care when needed. Students reporting privacy concerns were more likely to report difficulty accessing health care for sensitive health issues, such as sexual health, emotional problems, pregnancy-related issues, stopping cigarette smoking, or alcohol or drug use.

**DISCUSSION:** NZ secondary school students who forgo health care are at increased risk of physical and mental health problems and in need of accessible and confidential health services.

**KEYWORDS:** Access to health care; adolescent health services; general practice; preventive health services

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## Introduction

Adolescents who forgo health care are a vulnerable group at risk of physical and mental health problems.<sup>1</sup> There are a number of factors that influence health care access and utilisation among adolescents, including individual characteristics such as age, gender and socioeconomic factors, availability and adolescent perceptions of their health care provider, and level of need or illness.<sup>1,2</sup> For adolescents, perceived provider characteristics

such as confidentiality are especially important, as well as adolescents' perceptions of their provider's honesty, respectfulness and equity.<sup>3</sup> Adolescents who forgo health care due to confidentiality concerns are more likely to experience psychological distress, high rates of risk behaviours, and parent-teen communication issues.<sup>4</sup>

Young people in New Zealand have a poor record of youth health, with high rates of suicide, motor vehicle accidents and teenage pregnancy

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compared to other high income countries.<sup>5</sup> Given New Zealand's poor youth health record, there is a need to better understand the issues around primary care access and forgone health care among adolescents in New Zealand. To date, few studies have investigated what specific health issues adolescents have had difficulty accessing health care for, especially due to confidentiality concerns. The aims of this study are to describe the prevalence and reasons for forgone health care among a nationally representative sample of secondary school students and to describe the health concerns and health issues for which these young people had difficulty accessing health care.

### Methods

A nationally representative sample of all secondary schools was drawn from the New Zealand Ministry of Education database in June 2006. Schools with fewer than 50 students in years 9 to 13 were excluded, leaving 389 schools eligible to participate. From these schools, 115 were randomly selected and 96 agreed to participate, representing an 84% response rate. The majority of participating schools were publically funded (70%), co-educational (71%), and had rolls of less than 700 students (60%), reflecting the general characteristics of secondary schools in New Zealand. Ethical approval was obtained from the University of Auckland Human Subject Ethics Committee. Written consent was obtained from the principal of each participating school; students and parents were given written information about the survey and each student gave their own consent to participate.

### Participants

The survey was carried out from March to October in 2007. In each participating school, 18% of year 9 to 13 students were randomly selected from the school roll and invited to take part. In total 9107 students out of the 12 355 students invited took part in the study, representing a 73% response rate. Apart from a slightly higher percentage of male students, the participating students were similar demographically to the national population of secondary school students. The survey was carried out using internet tablets—small hand-held computers with high-resolution touch screens.<sup>6</sup>

No keyboard data entry was required; questions and answers could also be heard through headphones and responses were made by touching the screen with a stylus. Students could elect to miss any question or section of the survey at any point.

### Data collection

To assess forgone health care, students were asked 'In the last 12 months, has there been any time when you wanted or needed to see a doctor or nurse (or other health care worker) about your health, but weren't able to?' with response options 'yes' or 'no'. Age, gender, and ethnicity were determined by self-report. Ethnicity was assessed using the standard ethnicity question developed for the New Zealand census where participants can select all of the ethnic groups that they identify with. Approximately 40% of students identified with more than one ethnic group. To facilitate statistical analyses, discrete ethnic populations were created using a prioritisation method where students were assigned to one ethnic group in the following order: Maori, Pacific, Asian, NZ European, and other ethnicities. Table 1 describes the indicators of health concerns and health risk behaviours used in this study.

During the survey, students were asked to provide their home address in order to ascertain the small-area geographical unit or meshblock in which they lived. That unit was recorded and later matched to the 2006 New Zealand Deprivation Index (NZDep2006). The home address was not saved to protect the participating student's anonymity. NZDep2006 is an area-based socioeconomic deprivation index that assesses eight dimensions of deprivation (beneficiary, home ownership, single-parent families, unemployment, lack of educational qualifications, overcrowding, no access to a telephone, no access to a car) using 2006 New Zealand census data.<sup>7</sup> Each participating student's NZDep2006 index was determined by linking their residential meshblock number to the NZDep2006 index. The index deciles were categorised into five groups, from low deprivation (1 and 2) to high deprivation (9 and 10) neighbourhoods. The meshblock was also used to classify students' residential location into main urban (cities, major urban areas or large

regional centres with a minimum population of 10 000 people), minor urban (urbanised settlements with a population between 1000 and 9999 people) and rural (rural centres and locations with populations less than 1000 people).

### Data analysis

Descriptive statistics are presented as percentages with their 95% confidence intervals accounting for the unequal probability of selection and the clustered survey design using the survey procedures in SAS (SAS Institute, Cary, North Carolina). Multivariate logistic regression analysis was used to compare differences between groups, controlling for age, sex, ethnicity and socioeconomic deprivation and urban or rural location. As the main outcomes were common (>10%), adjusted relative risk (aRR) of forgone health care by health problems and health risk behaviours were estimated using a Poisson model.<sup>8</sup> Differences are interpreted conservatively given the size of the sample and the number of comparisons being made between demographic groups.

### WHAT GAP THIS FILLS

**What we already know:** Young people in New Zealand have a poor record of youth health. Perceived lack of confidential health care has been identified in the literature as one of the barriers to young people accessing health care services.

**What this study adds:** New Zealand secondary school students have high rates of forgone health care. Confidentiality concerns are an important barrier young people face accessing health care, especially for those with emotional and sexual health concerns.

### Results

One in six students (17%) had not seen a doctor or nurse when needed in the last 12 months (Table 2). Forgone health care was more common among female students compared to male students ( $p<0.001$ ), and Maori and Pacific students compared to Asian and NZ European students ( $p<0.001$ ). Students living in neighbourhoods with high levels of deprivation were more likely to report not accessing health care when needed, compared to students from neighbourhoods with low levels of deprivation ( $p=0.01$ ). There were

Table 1. Description of health problems and health risk behaviour measures

Measure	Description of measures
<b>Chronic health problem or disability (2 items)</b>	'Do you have any long-term health problems or conditions (lasting six months or more)?' and 'Do you have a long-term disability (lasting six months or more)?' with the response options 'yes', 'no' and 'don't know'. Students who responded yes to either question were classified as having a chronic health problem or disability.
<b>Current cigarette use (2 items)</b>	'Have you ever smoked a whole cigarette?' (response options included 'yes', 'no'); and 'How often do you smoke cigarettes?' (response options included 'never—I don't smoke now', 'occasionally', 'once or twice a month', 'once or twice a week', 'most days', 'daily'). Students who reported smoking occasionally or more often were defined as current smokers.
<b>Binge drinking in the previous four weeks (2 items)</b>	'Have you ever drunk alcohol (not counting a few sips)?' and 'In the past four weeks, how many times did you have five or more alcoholic drinks in one session—within four hours?' (response options included 'none at all', 'once in the past four weeks', 'two or three times in the past four weeks', 'every week' and 'several times a week'). Students who reported drinking five or more alcoholic drinks within four hours once or more often in the previous four weeks were classified as binge drinkers.
<b>Sexually active (1 item)</b>	'About how old were you when you first had an experience of sex? (by this we mean sexual intercourse or going 'all the way')?' with response options from 'under 11 years' to '11 to 18 years' and 'never'. Students were defined as being sexually active if they did not reply 'never'.
<b>High depressive symptoms (10 items)</b>	Students were classified as having high depressive symptoms based on a cut-off score of over 28 or endorsement of four critical items on the Reynolds Adolescent Depression Scale: Short Form (RADS-SF). <sup>29</sup>
<b>Weight status</b>	Height and weight were measured during the survey, from which body mass index (BMI) was calculated. Students were classified as normal weight, overweight or underweight using age- and sex-specific definitions as recommended by the International Obesity Task Force. <sup>30</sup>
<b>Inconsistent contraception use (2 items)</b>	'How often do you use condoms as protection against sexually transmitted infections?' ('always', 'most of the time', 'sometimes', 'never'); 'How often do you or your partner use contraception?' ('always', 'most of the time', 'sometimes', 'never'). Inconsistent contraception use was defined as 'sometimes' or 'never' use of condoms and contraception.

Table 2. Demographic characteristics of secondary school students participating in study of forgone health care

	Total	Students who report not accessing health care when needed in last 12 months		
	n (%)	n	%	p-value*
<b>Total</b>	9107 (100)	1485	16.8	
<b>Gender</b>				<0.001
<b>Males</b>	4911 (54.0)	681	14.4	
<b>Females</b>	4187 (46.0)	804	19.7	
<b>Age (years)</b>				0.003
≤13	1860 (20.4)	271	14.9	
14	2101 (23.1)	325	16.1	
15	1973 (21.7)	347	18.0	
16	1743 (19.2)	321	19.0	
≥17	1423 (15.6)	221	16.1	
<b>Ethnicity</b>				<0.001
<b>Asian</b>	1126 (12.4)	161	14.7	
<b>NZ European</b>	4797 (52.8)	642	13.7	
<b>Maori</b>	1702 (18.7)	373	22.6	
<b>Pacific</b>	924 (10.2)	212	24.4	
<b>Other</b>	531 (5.8)	94	18.3	
<b>Socioeconomic deprivation</b>				0.01
<b>i (low)</b>	2206 (24.9)	319	14.7	
<b>ii</b>	1921 (21.7)	275	14.5	
<b>iii</b>	1701 (19.2)	270	16.1	
<b>iv</b>	1447 (16.3)	256	18.0	
<b>v (high)</b>	1590 (17.9)	349	22.7	
<b>Geographical location</b>				0.32
<b>Main urban</b>	6239 (70.4)	1065	17.4	
<b>Minor urban</b>	1214 (13.7)	196	16.4	
<b>Rural</b>	1414 (15.9)	208	14.9	

\* Adjusted for all other demographic variables in the table

no significant differences by main urban, minor urban or rural location in the prevalence of forgone health care among students. Paradoxically, the prevalence of forgone health care was higher among students who had seen a doctor or other health provider in the last 12 months (17.3%) compared to students who had not seen a doctor or other health provider in the last 12 months (14.3%). This finding remained significant after controlling for age, gender, ethnicity, socioeconomic deprivation, and location (aRR=1.29, 95% CI 1.10–1.52, data not shown in the tables).

Table 3 shows the reasons students reported for not accessing health care when needed. The most common reasons given were: ‘not wanting to

make a fuss’ (55%); ‘couldn’t be bothered’ (39%); ‘costs too much’ (32%); ‘too scared’ (30%); and ‘concerns about privacy’ (28%). Male students were more likely to report ‘couldn’t be bothered’ as a reason compared to female students ( $p<0.001$ ). Female students were more likely to report cost ( $p<0.001$ ), being too scared ( $p<0.001$ ), and concerns about privacy ( $p<0.001$ ) compared with male students. There were few differences by socioeconomic deprivation or geography in the reasons students reported not being able to access health care, once gender, age, and ethnicity were controlled for (data not shown).

Among students reporting health problems and/or health risk behaviours, the prevalence

Table 3. Reasons students reported for not accessing health care when needed, by gender

	Total		By gender		p-value*
	n	%	Male %	Female %	
Didn't know how to	312	21.8	22.0	21.6	0.71
Couldn't get an appointment	331	23.1	21.8	24.2	0.41
Didn't want to make a fuss	789	55.0	51.1	58.3	0.009
Couldn't be bothered	560	39.1	45.2	34.0	<0.001
Had no transport to get there	385	26.9	25.6	28.0	0.32
Cost too much	461	32.2	27.0	36.6	<0.001
Couldn't contact the health professional	139	9.8	11.8	8.1	0.03
Didn't feel comfortable with the person	308	21.4	18.4	24.0	0.03
Too scared	429	29.9	20.7	37.6	<0.001
Worried it wouldn't be kept private	406	28.2	21.5	33.8	<0.001
Other	297	20.6	21.4	19.9	0.55

\* Adjusted for age, ethnicity, socioeconomic deprivation, and geographical location

of forgone health care was greater than among students without health problems and/or health risk behaviours (Table 4). For example, among students with a chronic health problem or disability, 25% reported forgoing health care compared to 14% of students without a chronic health problem or condition (aRR=1.8, 95% CI 1.6–2.0). Some of the highest relative risks of forgone health care were among students with high depressive symptoms (37%, aRR=2.5, 95% CI 2.2–2.8). Among sexually active students, students using contraception inconsistently were also more likely to report forgone health care (35.2%) compared to students using contraception consistently (23.8%, aRR=1.3, 95% CI 1.1–1.6, data not shown in tables).

Among the students who reported problems accessing health care, students with concerns about privacy had more difficulty accessing health care for contraception/sexual health ( $p<0.001$ ), emotional problems ( $p<0.001$ ), pregnancy/pregnancy test ( $p<0.001$ ), help with stopping drug or alcohol use ( $p=0.007$ ), smoking cessation ( $p=0.002$ ), short-term or long-term health conditions such as asthma ( $p=0.02$ ) compared to students who did not report concerns about privacy (Table 5). For accidents and injuries, concern about privacy was not significantly associated with difficulty in accessing health care.

## Discussion

We found one in six New Zealand secondary school students had not seen a doctor when needed in the last year. Similar to previous studies, forgone health care was higher among female students, specific ethnic groups (in this study Maori and Pacific) and students from neighbourhoods with high levels of socioeconomic deprivation.<sup>1,4</sup> These findings may be due to higher rates of health problems experienced by these students or to barriers these students face accessing health care. For example, female students have higher rates of emotional and reproductive health issues than male students<sup>9</sup> and in the current study females were more likely to report problems accessing health care due to perceived lack of privacy. However, after accounting for demographic variables, students with health problems and/or engaging in health risk behaviours were more likely to report forgone health care than students without these health concerns.

The most common reasons students cited for forgoing health care were individual factors, such as not wanting to make a fuss, but many students were also concerned about health care provider factors, such as confidentiality. These results are similar to international studies on the barriers young people report they face when

Table 4. Percentage of students reporting forgone health care in the last 12 months by health problem and health risk behaviours

			Forgone health care in past 12 months		
			Total n (%)	%	aRR*
Chronic health problem or disability	no	6379 (79.8)	13.9	1.0	
	yes	1628 (20.2)	24.5	1.8	1.6–2.0†
Current cigarette use	no	6892 (83.1)	14.2	1.0	
	yes	1409 (16.9)	28.2	1.8	1.6–2.0†
Binge drinking	no	5418 (65.6)	13.9	1.0	
	yes	2829 (34.4)	21.5	1.5	1.4–1.7†
Sexually active	no	5133 (63.6)	12.7	1.0	
	yes	2931 (36.4)	23.5	1.8	1.6–2.0†
High depressive symptoms	no	7661 (89.4)	14.1	1.0	
	yes	910 (10.6)	37.2	2.5	2.2–2.8†
Weight status	Normal weight	5563 (63.2)	15.7	1.0	
	Underweight	229 (2.6)	12.9	0.8	0.5–1.1
	Overweight	3010 (34.1)	18.9	1.1	1.0–1.2

\* Adjusted relative risk controlling for sex, age, ethnicity, and socioeconomic deprivation

†  $p < 0.01$

accessing health care.<sup>10</sup> Our findings suggest that nearly one-third of students had privacy concerns as reasons for forgoing health care. This was markedly higher than a similar study utilising data from the US where 11% of boys and 14% of girls reported privacy concerns as a reason for forgone health care.<sup>4</sup> Privacy concerns are consistently cited by young people as

important factors influencing their decisions to seek health care.<sup>3</sup> Young people rate barriers around confidentiality and embarrassment as highly important, in contrast to service providers who consider these barriers of low importance.<sup>11</sup> A school-based study from the US found that 76% of teenagers surveyed wanted private and confidential health care, but less than half

Table 5. Health issues students have reported not getting health care for in the past 12 months\*—students reporting privacy concerns compared to students not reporting privacy concerns

	Have not had concerns about privacy (n=985)		Have had concerns about privacy (n=395)		p-value†
	n	%	n	%	
An injury/accident	220	22.5	94	23.7	0.19
Help with stopping smoking	64	6.5	53	13.4	0.002
Help with stopping drug or alcohol use	62	6.3	43	11.0	0.007
A long-term health condition, e.g. asthma	94	9.6	54	13.9	0.02
A condition that does not last very long, e.g. a cold	141	14.3	75	19.2	0.02
Contraception/sexual health	110	11.3	113	28.6	<0.001
An emotional worry	162	16.4	155	39.0	<0.001
Pregnancy or pregnancy test	61	6.2	82	20.4	<0.001
Something else	147	14.9	122	30.7	<0.001

\* Students were able to choose more than one

† Adjusted for sex, age, ethnicity, socioeconomic deprivation, and geographical location

were aware that their health care provider could provide this.<sup>12</sup>

Among the students in the current study who reported problems accessing health care, those with concerns about privacy were more likely to report problems accessing health care for sensitive health care issues, such as pregnancy worries, drug and alcohol issues, and emotional health concerns. In New Zealand, over 80% of secondary school students access health services in a given year, predominantly from their usual primary care provider.<sup>13</sup> It is of interest then that forgone health care was higher among students who had accessed health care in the last year compared to those who had not. While this could reflect ongoing health concerns among young people accessing health care, it also could mean that primary health care services are not meeting the needs of this age group. Data from the same population as the current study have shown that among students who had accessed health care, only 27% reported receiving private and confidential care.<sup>13</sup> In New Zealand primary care settings, young people have the lowest utilisation rates, are least likely to see the same primary care doctor consistently, and receive the least time with their primary care doctor compared with any other age group.<sup>14</sup> Furthermore, among adolescents who do utilise primary care services, few receive the recommended preventive health counselling, health promotion or screening for health risk behaviour or emotional health concerns.<sup>15</sup> This is despite research from the US showing that adolescents trust their health care professionals, view them as credible sources of health information, and want to talk to their doctors about sensitive health issues.<sup>16,17</sup> It is of concern that both students with health concerns and students from populations experiencing disparities in health outcomes were most at risk of forgone health care, as these issues are arguably amenable to good quality primary care.<sup>18</sup>

One of the more common reasons students reported not accessing health care when needed was cost. Previously published data from this population of secondary school students has shown that students accessed health care in the previous year from the following sites: general practitioners (GPs) or family doctors (93%), school health clinics (23%), after-hours or 24-hour accident

and medical centres (16%), hospital emergency departments (18%), family planning or sexual health clinics (5%) and youth centres (2%).<sup>13</sup> There are significant cost barriers for adolescents accessing health care from GPs and after-hours medical centres. GPs or family doctors receive government subsidies but are able to charge their patients on a fee-for-service basis. After-hours care is also based on a fee-for-service model with government subsidies, but is often more expensive than health care accessed during regular hours. In contrast, youth centres, sexual health clinics and school-based health clinics are free, but their availability is limited.

Several potential limitations warrant consideration in interpreting the findings of this study. The data are cross-sectional in nature and this limits the ability to make inferences regarding causality. The response rate was 73% which limits the generalisation of the findings to the entire secondary school population. There was also limited information on details around the privacy and confidentiality concerns reported. Privacy concerns among adolescents include not only the disclosure of personal information but psychological, social, and physical aspects of privacy as well.<sup>19</sup> Another limitation is that the sample was limited to students at school and may not apply to out-of-school youth. It is well recognised that students who are absent or excluded from mainstream schools engage in more health risk behaviours and have poorer emotional wellbeing than students who are at school, and are also likely to experience additional barriers accessing health care.<sup>20</sup> In New Zealand, students who experience psychosocial difficulties are also more likely to leave school early, as education in New Zealand is compulsory only up until the age of 15 years. This may explain the drop in forgone health care reported among 17-year-olds and older students.

Despite these potential limitations, our findings suggest several areas for improving health care access for adolescents in primary care settings in New Zealand. Firstly, health care providers need to review their practice and environment with respect to confidentiality and privacy from a youth perspective. Position statements from national and international medical organisations

have recommended specific measures to address the health needs of the youth population.<sup>21–24</sup> However, recent regional initiatives in primary care make no mention of the adolescent age group in their strategic plans, let alone identify ways to improve access for young people. This is despite a wealth of resources available to primary care services interested in improving their practice.<sup>25</sup> Secondly, there is a need for better training in adolescent health among primary care providers. Many primary care providers are uncomfortable providing health care to adolescents and feel inadequately trained in youth health issues.<sup>26,27</sup> Specialised training in adolescent health significantly increases the likelihood of adolescents receiving confidential care.<sup>28</sup> To improve health care access for young people in New Zealand will require a comprehensive approach, with primary care providers being trained and responsive to the needs of the adolescent population.

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#### COMPETING INTERESTS

None declared.